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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte DAISUKE KAWAGOE*

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Appeal 2008-4137  
Application 10/646,478  
Technology Center 2800

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Decided: November 25, 2008

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Before CATHERINE Q. TIMM, ROMULO H. DELMENDO, and  
KAREN M. HASTINGS, *Administrative Patent Judges*.

HASTINGS, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 40-58. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

#### STATEMENT OF THE CASE

The invention relates to a substrate for electronic devices. The substrate includes a stacked via structure (Spec. 1:4-5). Signals may be transmitted between layers in the substrate using stacked vias (Spec. 1:8-10). Claim 40 is illustrative:

40. A substrate comprising:
- a first dielectric layer;
  - a second dielectric layer;
  - a first conductive layer between the first and second dielectric layers;
  - a third dielectric layer, the second dielectric layer being between the first and third dielectric layers;
  - a second conductive layer between the second dielectric layer and the third dielectric layer, the second conductive layer including a first skip via that extends through the first and second dielectric layers; and
  - a third conductive layer on the third dielectric layer, the third conductive layer including a second via that extends through the third dielectric layer, the second via and the first skip via being stacked on top of one another.

The Examiner relies upon the following prior art references in the rejections of the appealed claims:

Carpenter et al.	6,810,583	Nov. 2, 2004
Uchikawa et al.	6,531,661	Mar. 11, 2003
Asai et al.	6,534,723	Mar. 18, 2003

The Examiner rejected:

- a) claims 40-44 and 47-51 under 35 U.S.C. § 102(e) as being anticipated by Carpenter;
- b) claims 54-56 under 35 U.S.C. § 103(a) as being unpatentable over Carpenter; and
- c) claims 45, 46, 52, 53, 57, and 58 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Carpenter with Uchikawa and Asai.

Appellant does not separately argue with any reasonable specificity the dependent claims in the grouping of claims 40-44 and 47-51 rejected under 35 U.S.C. § 102 (App. Br. 9-13; Reply Br. 1-3). Therefore, we select the independent claims 40 and 47 to decide the issue in the first ground of rejection on appeal. 37 C.F.R. § 41.37(c)(1)(vii)(2006). Also, Appellant does not present additional substantive arguments for the group of depending claims 54-56, nor for the group of depending claims 45, 46, 52, 53, 57, and 58, as separately rejected by the Examiner. Accordingly, we will limit our consideration to the Examiner's rejection of claims 40 and 47.

#### ISSUE ON APPEAL

Has the Appellant shown that the Examiner reversibly erred in rejecting the claims because:

- (a) “a second conductive layer” of Carpenter does not “includ[e] a first skip via” as required by claims 40 and 47;
- (b) “a third conductive layer” of Carpenter does not “includ[e] a second via” as required by claim 40; and
- (c) “a fourth conductive layer” of Carpenter does not “includ[e] a second skip via” as required by claim 47?

This issue turns on the broadest reasonable interpretation of the above noted claim language.

## PRINCIPLES OF LAW

### *Claim Construction*

During examination of a patent application, a claim is given its broadest reasonable construction “in light of the specification as it would be interpreted by one of ordinary skill in the art.” *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). Although claims are to be interpreted in light of the specification, limitations from the specification are not to be read into the claims. *See In re Van Geuns*, 988 F.2d 1181, 1184-85 (Fed. Cir. 1993); *see also, e.g., In re Zletz*, 893 F.2d 319, 321-22 (Fed. Cir. 1989).

It is well established that the transitional term “including”, which is synonymous with “comprising”, is inclusive or open-ended and does not exclude any additional, unrecited elements. *See Mars, Inc. v. H.J. Heinz Co.*, 377 F.3d 1369, 1375-76 (Fed. Cir. 2004).

It is also well established “that an indefinite article ‘a’ or ‘an’ in patent parlance carries the meaning of ‘one or more’ in open-ended claims containing the transitional phrase ‘comprising.’” *KJC Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1356 (Fed. Cir. 2000); *see also Baldwin Graphic Systems, Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1342-1343 (Fed Cir. 2007-1262, 1/15/2008) (“[t]hat ‘a’ or ‘an’ can mean ‘one or more’ is best described as a rule” and “[t]he subsequent use of definite articles ‘the’ or ‘said’ in a claim to refer back to the same claim term does not change the general plural rule, but simply reinvokes that non-singular meaning”).

*Anticipation*

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *See Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631-632 (Fed. Cir. 1987).

However, the law of anticipation does not require that the reference ‘teach’ what the subject patent (or application) teaches. Assuming that a reference is properly ‘prior art,’ it is only necessary that the claims, as construed, ‘read on’ something disclosed in the reference, i.e., all limitations of the claim are found in the reference, or ‘fully met’ by it. *See Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 772 (Fed. Cir. 1983).

FACTS

Figure 6 of Carpenter depicts all the elements set forth in independent claim 40 as found by the Examiner (Ans. 4; marked up Figure 6 in Appendix A). Specifically, Carpenter’s second conductive layer C2 includes a first skip via 57 that extends through the first and second dielectric layers (D1 and D2). The third conductive layer of Figure 6 includes a second via 26 that extends through the third dielectric layer D3. (Ans., Appendix A).

Figure 7 of Carpenter depicts all the elements set forth in independent claim 47 as found by the Examiner (Ans. 5-6; marked up Figure 7 in Appendix B). Specifically, Carpenter’s second conductive layer C3 includes a first skip via V1 that extends through the first and second dielectric layers (D1 and D2). The fourth conductive layer of Figure 7 includes a second skip via V2 that extends through the third and fourth dielectric layers (D3 and D4). (Ans., Appendix B).

The plain meaning of the word “include” encompasses: 1) to take in as a part, element, or member, 2) to contain as a secondary or subordinate element, and 3) to consider with or place into a group, class, or total.<sup>1</sup>

## ANALYSIS

We agree with the Examiner’s findings of facts and legal conclusions of anticipation and obviousness as set out in the Answer. We add the following primarily for emphasis.

Appellant’s disagreement with the Examiner’s rejection focuses solely on the alleged deficiencies of Carpenter as set out in the issue above; that is, whether each respective layer claimed includes a respective via.

Implicit in our review of the Examiner’s anticipation analysis is that the claim must first have been correctly construed to define the scope and meaning of each contested limitation. *See Gechter v. Davidson*, 116 F.3d 1454, 1457 (Fed. Cir. 1997). In particular, the Appellant and the Examiner disagree on the interpretation of the limitations “the second conductive layer including a first skip via” and “the third conductive layer including a second via” as recited in claim 40. Similar language is in dispute in claim 47 (i.e., “the second conductive layer including a first skip via” and “the fourth conductive layer including a second skip via”).

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<sup>1</sup> *Including*, THE AMERICAN HERITAGE® DICTIONARY OF THE ENGLISH LANGUAGE, (4th ed., Houghton Mifflin Co., 2004), available at <http://dictionary.reference.com/browse/including>.

Appellant argues that the respective layers of Carpenter relied upon by the Examiner do not **include** a via, because the via is not “part of the layer” as evidenced by the different cross hatching in the Figs. 6 and 7 of Carpenter (App. Br. 9-13; Reply Br. 1-3). The Examiner argues for a broader reading such that the respective conductive layers relied upon do include the respective vias as clearly set out in the Examiner’s marked up Figs. 6 and 7 of Carpenter. (Ans. 6-8). We agree with the Examiner.

We find no basis in the claim language or in the disclosure in the Specification on which to read the disputed language in the narrow sense urged by Appellant as a limitation into claim 40 and 47. The Specification contains no explicit definition of “including”. While Appellant’s Specification does provide an example of forming the layers and vias such that the layers and vias would appear to be made of the same material (e.g., Spec. 4:7-10, 26-28), we find no basis in the claim language or in the disclosure in the Specification on which to read these illustrative embodiments as limitations on the “layer[s]” and “via[s]” into claims 40 and 47.

Each of the various “*a ... layer*” set out in claims 40 and 47 (emphasis provided) may comprise more than one “layer”. Furthermore, the plain meaning of “including” encompasses that the respective vias be a secondary element of the respective layers, or be considered therewith. For example only, many shirts “include” a button as a secondary element, and many picture frames “include” a cover (often constructed of a different material than the frame).

Carpenter depicts the claimed relationship at least by the contact of the respective conductive layer along with its respective associated via as explained by the Examiner.

Therefore, for the foregoing reasons and those stated in the Answer, we agree with the Examiner's findings in support of anticipation for claims 40-44 and 47-51 based on Carpenter.

*The Obviousness Rejections of the Dependent Claims*

Appellant does not present any additional arguments to dispute the Examiner's findings of facts and conclusions of obviousness of dependent claims 54-56 with respect to Carpenter. Appellant also does not present any additional arguments to dispute the Examiner's findings of facts and conclusions of obviousness of dependent claims 45, 46, 52, 53, 57 and 58 with respect to the secondary references Uchikawa and Asai as combined with Carpenter.

We therefore sustain the § 103 rejections advanced by the Examiner in this appeal.

**CONCLUSIONS OF LAW**

The Appellant has not shown that Carpenter's layers do not include the vias as claimed. The Examiner's § 102 rejection is based on a reasonable interpretation of the disputed claim language.

It follows that we sustain the § 102 rejection of claims 40-44 and 47-51 as being anticipated by Carpenter.

We also sustain the § 103 rejections advanced by the Examiner in this appeal.

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ORDER

The Primary Examiner's decision is affirmed.

No time period for taking any subsequent action in connection with this appeal maybe extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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